

Pushing the Envelope—Round Robin Results

1. Extraordinarily High and Growing Worldwide Demand for Air Passenger Transportation.

Grounded	Env	Reg	Trading
0	0	1	3

Grounded: Some short haul need—different airplanes, used for another reason. General aviation is strong. Small transport aircraft—150 instead of 400 passengers.

Env: Global recession. CO2 constraints. Does not work

Reg: Military driven needs, not the market. 24 hour operations for military. Fast, adverse weather works, but for military purposes, not commercial.

Trad: Emerging markets account for high demand. So not truly worldwide.

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2. Massive investment in aviation infrastructure worldwide.

Grounded	Env	Reg	Trad
2	1	0	3

Grounded: Security related infrastructure only. Moving away from hubs, to distributed systems, so not many new airports. Efficient access to airports is important.

Environ: Selected investments, but different. Incr. throughput is not the issue. Need efficient access for different reasons. Major energy challenges.

Reg: Not relevant to this world.

Trading: Emerging markets only. Not in the U.S. and mature markets.

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3. High customer demand for tailored air products and services.

Grounded	Env	Reg	Trading
2	0	2	3

Grounded: Very limited demand for customized products, services overall. The commodity market does not exist. Mass customization is relevant. And there is a premium product market. Some new entry, new players, along with shake-outs. Airlines as you know them won't exist. Not sufficient market for flexible craft manufacture.

Refurbishment market—maybe, if terrorism is not an issue. Reducing cycle time is important—cost is very important. Consumer/op driven and IT enabled...etc. does not fit this world. Reduced volumes, so subcontractors lose out. Keep jobs at home.

Env: Does not fit. It is all a depressed, commodity world.

Reg: If military is the consumer, the point (customization) works. Otherwise no. Flexible manufacture of aircraft does work. Not a good refurbishment market—they have their own industries in Asia, e.g. Reduced cycle time applies to military customers. Need to develop products for REGIONAL as well as global markets.

Trading: A big commodity market in developed and developing country markets. Limited mass customization—not sufficient affluence overall. Consumers are not that picky.

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4. Efficient, high volume air traffic management systems.

Grounded	Env	Reg	Trading
2	1	0	3

Grounded: Only important for local G.A. Not worldwide. Security is not global, very national. Also, controls are in the airplanes. This is not massive, on-ground systems. Need to handle new aircraft sizes, performances—this is relevant. But demand will not be massive.

Env: Somewhat, but to much more limited extent. Environmental drivers.

Reg: No international ground control air traffic standards. Technology is in the airplanes. Autonomy from ground controls is big in military aircraft, esp. Systems is not global nor regulated globally.

Trading: Works pretty well: global world, a lot of Emerging Market growth and increased traffic. Market integration across globe.

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5. Increased safety, security.

Grounded	Env	Reg	Trading
4	2	3	3

Grounded: Yes, highly relevant. Defines the world. Craft must be idiot proof, eliminate human error to extent possible. Emphasis on passenger safety.

Env: Emphasis on security but not too many aircraft flying.

Reg: Low emphasis on global rules, standards, etc. This is nationally driven. Data security is important. Some military need for adverse weather, human error risk reduction.

Trading Emphasis on safety; security less important.

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6. Limited U.S. military global responsibilities.

Grounded	Env	Reg	Trading
4	2	1	4

Grounded: Strong application with some exceptions. Public IS more willing to “to out and get em” so and lose lives, if necessary.

Env: Partial relevance—“Eco SWAT teams” to take out environmental terrorists. Small, in/out forces will need very smart systems.

Reg: Not “limited” military responsibilities, MASSIVE, and TO PROJECT POWER. Rapid deployment is key, but for massive forces. THE HIGHEST level of info security.

Trading Good match.

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7. Need to satisfy public demand for environmentally friendly air transportation system.

Grounded	Env	Reg	Trad
2	4	1	4

Grounded: Emphasis on noise, not air pollution reduction.

Env: Defines the world.

Reg: Not very relevant.

Trading: “Very important”

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8. Extraordinarily high and growing demand for air cargo service.

Grounded	Env	Reg	Trading
4	3	3	3

Grounded:

Env: Relevant, especially advanced info tech for max aircraft utilization.

Reg: Need is short haul, large aircraft. Strong military and security motivations. At the same time, trying to reestablish overseas markets.

Trad: Needed to ship specialized, high cost items. Not quite so strong demand overall given lackluster mature markets.

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9. Need for long-term, high risk, aerospace research.

Grounded	Env	Reg	Trading
0	2	0	1

Grounded: No money, no motivation.

Env: Need to solve the CO₂ problem. How do you get there? Need short term solutions.

Reg: “0” score as is. Need long term, but not high risk and not-driven by commercial but military considerations. May not be a NASA enterprise. Maybe DOD in this very different environment.

Trading: Insufficient money in U.S. Not the human capital nor technology—it is overseas.

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10. Worldwide demand for ready access to space.

Grounded	Env	Reg	Trading
3	3	2	4

Grounded: Low cost boosters for commercial satellites. G-Net. Very high military demand.

Env: Limited to military. CO2 monitoring. Space-based weapons.

Reg: Minor commercial, very high military.

Trading: Minor military, very strong commercial demand.